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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* BHARAT TARACHAND DOSHI, STEFAN HUNSCHE,  
RAMESH NAGARAJAN, SRINIVASA PRASANNA,  
NARAYAN RAMAN, and MEENAKSHI SHARMA

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Appeal 2008-6366  
Application 10/073,931  
Technology Center 2800

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Decided:<sup>1</sup> March 27, 2009

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Before CHARLES F. WARREN, JEFFREY T. SMITH, and  
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the  
Primary Examiner's rejection of claims 1-15. The Examiner has indicated

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

that the subject matter of claims 16-18 contains allowable subject matter.

(Ans. 3). We have jurisdiction pursuant to 35 U.S.C. § 6.<sup>2</sup>

Appellants' invention is directed to "methods and devices for improving cross-connections include an optical connection device comprising one or more optical processing units and an optical switch adapted to connect at least one of the units to one or more optical signals based on a characteristic of each signal." (Spec. [0012]). Claim 1 is representative of the invention and is reproduced below:

1. A connection device comprising:

one or more non-dedicated, processing unit; and

an optical switch for receiving Ultra-Long Haul (ULR) optical signals and for connecting at least one of the units to one or more of the received signals based on a characteristic of each signal.

#### ISSUES ON APPEAL

Appellants request review of the following of rejections (App. Br. 3):<sup>3</sup>

Claims 1, 4-6, 9-11, 14, and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by Fee, U.S. Patent 5,726,788, issued in March 10, 1998;

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<sup>2</sup> In rendering this Decision we have considered the Appellants' arguments presented in the Appeal Brief dated June 25, 2007 and the Reply Brief dated January 16, 2008.

<sup>3</sup> The Examiner has indicated the rejection under 35 U.S.C. §112, second paragraph, has been withdrawn. (Ans. 2).

Claims 2, 7, and 12 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Fee, and Wong U.S. Patent No. 6,624,927, issued September 23, 2003; and

Claims 3, 8, and 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Fee, Wong, and Sharma, U.S. Patent No. 6,331,906, issued December 18, 2001.

### ISSUES

*The §102 rejection over Fee:* Have Appellants shown reversible error in the Examiner's determination that Fee describes a connection device for optical networks comprising one or more non-dedicated, processing unit; and an optical switch capable of receiving Ultra-Long Haul (ULR) optical signals?

*The §103 rejections over:* Have Appellants shown reversible error in the Examiner's determination that it would have been obvious to a person of ordinary skill in the art to utilize in optical networks (1) a Raman pump for the purpose of amplifying optical signals (claims 2, 7, and 12), and (2) utilize a modulation reshaper (i.e., an optical-electrical-optical regenerator as claimed) for the purpose of reshaping optical signals (claims 3, 8, and 13)?

We answer these questions in the negative for essentially those reasons stated in the Examiner's Answer (*see* Ans. 8-15).

### FINDINGS OF FACT

#### *Specification*

The Specification discloses ultra-long reach (ULR) optical fiber networks are characterized by their ability to transmit signals over long distances without the need to process the signals other than simple

amplification. (Spec. [0002]). The Specification discloses that the non-dedicated processing unit is in a processing unit that is connected to a signal only when the characteristics of the signal indicate that processing is needed. (Spec. [0012]). The Specification discloses processing units include “a regenerator, Raman pump, dispersion equalization/compensation unit or a performance monitor.” (Spec. [0013]).

*Fee*

Fee discloses an optical device for selectively amplifying, switching, regenerating, and performing other signal processing operations upon optical signals. (Col. 2, ll. 44-53). The described invention includes an optical switching unit that has multiple input/multiple output switching units which selectively routes signals among the processing functions. (Col. 3, ll. 8-16). The described invention includes one or more processing units (f1-f7) and an optical switch (308).

*Wong*

Wong, is evidence that Raman pumps were known to have been used with optical networks for the purpose of amplifying optical signals to persons of ordinary skill in the art. (See Wong generally).

*Sharma*

Sharma is evidence that it was known to utilize optical regenerators for the purpose of reshaping optical signals in optical communication networks. (Col. 11, ll. 53-58).

The Examiner finds that Fee describes an optical connection device comprising one or more optical processing units and an optical switch that is capable of receiving and routing ULR signals. (Ans. 4-5).

The Examiner finds that persons of ordinary skill in the art recognized that processing units, such as, Raman pumps (Wong), and signal regenerators optical-to-electrical-to optical converter (OEO) (Sharma) were known by persons of ordinary skill in the art to be suitable for use with optical connection devices. The Examiner concluded that it would have been obvious to a person of ordinary skill in the art to utilize these known processing units with the optical connection device described by Fee. (Ans. 6-7).

Appellants contend that Fee fails to teach or suggest a connection device comprising an optical switch that receives ULR signals and connects at least one non-dedicated processing unit to one or more of the received signals based on a characteristic of each signal as specified in claims 1, 6, and 11. (App. Br. 5). Appellants further contend that Fee fails to teach or suggest non-dedicated processing units and an optical connection device that comprises an optical switch that can receive ULR signals. (App. Br. 6).

Appellants contend that the combination of Fee, Wong, and/or Sharma fails because the processing units of Wong and Sharma are directed to dedicated processing units. (App. Br. 7-8). Appellants in their responsive Brief acknowledge that no arguments have been presented regarding the

suitability of combining the teachings of Fee, Wong, and/or Sharma. (Reply Br. 3).

### PRINCIPLES OF LAW

“[A]pparatus claims cover what a device *is*, not what a device *does*.” *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990). Therefore, the patentability of an apparatus claim depends on the claimed structure, not on the use or purpose of that structure, *Catalina Marketing Int’l Inc. v. Coolsavings.com Inc.*, 289 F.3d 801, 809 (Fed. Cir. 2002), or the function or result of that structure. *In re Danly*, 263 F.2d 844, 848 (CCPA 1959); *In re Gardiner*, 171 F.2d 313, 315-16 (CCPA 1948). If the prior art structure possesses all the claimed characteristics including the capability of performing the claimed function, then there is a prima facie case of unpatentability. *In re Ludtke*, 441 F.2d 660, 663-64 (CCPA 1971).

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations, if any. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). “[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-41 (2007). “[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it

would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *Id.*; see also *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) (“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”).

### ANALYSIS

Applying the preceding legal principles to the factual findings in the record of this appeal, we determine that the Examiner has established a prima facie case of anticipation and obviousness, which prima facie cases have not been adequately rebutted by Appellants.<sup>4</sup>

Appellants are free to recite features of their invention either structurally or functionally. See *In re Swinehart*, 439 F.2d 210, 212 (CCPA 1971) (“[T]here is nothing intrinsically wrong with [defining something by what it does rather than what it is] in drafting patent claims.”). Yet, choosing to define an element functionally, i.e., by what it does, carries with it a risk. It has not been disputed that Fee describes an optical device for selectively amplifying, switching, regenerating and performing other signal

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<sup>4</sup> Appellants have not provided separate arguments directed towards any particular claim. Consequently, for the rejection under § 102, we select independent claim 1 as representative of the rejected subject matter. Regarding the § 103 rejections, Appellants have provided their arguments together and essentially rely on the arguments presented with regard to the § 102 rejection. We select claims 2 and 3 as representative of the claims of the respective § 103 rejections.



processing operations upon optical signals. It has also not been disputed that the Fee invention includes an optical switching unit that has multiple input/multiple output switching units which selectively routes signals among the processing functions. Rather, Appellants contend that Fee fails to teach or suggest a connection device comprising an optical switch that receives ULR signals and connects at least one non-dedicated processing unit to one or more of the receives signals based on a characteristic of each signal. The Specification discloses that ULR optical fiber networks are characterized by their ability to transmit signals over long distances without the need to process the signals other than simple amplification. Appellants have not explained why the optical switch of Fee is not capable of receiving and directing optical signals that have been transmitted over long distances. Appellants have not identified specific structural components that would have rendered the optical switch of Fee not suitable for use with ULR signals. If the prior art structure possesses all the claimed characteristics including the capability of performing the claimed function, then there is a prima facie case of unpatentability. *Ludtke*, 441 F.2d at 663-64.

We agree with the Examiner (Ans. 11-12) that Fee describes non-dedicated processing units that are the same as the claimed invention. The Specification discloses that the non-dedicated processing unit is a processing unit that is connected to a signal only when the characteristics of the signal indicate that processing is needed. In other words, the signal that is received by the optical switch would direct that signal to a processing unit only when the characteristics of that signal required processing. Fee discloses the

optical switching unit that has multiple input/multiple output switching units which selectively routes signals among the processing functions.<sup>5</sup>

Regarding the rejection over the combined teachings of Fee, Wong, and/or Sharma, Appellants have not addressed the Examiner's rationale for combining the cited references to reject the claims. Rather, Appellants contend that the combination of Fee, Wong, and/or Sharma fails because the processing units of Wong and Sharma are directed to dedicated processing units. (App. Br. 7-8.). This argument is not persuasive for the reasons set forth above. Consequently, Appellants have not shown reversible error in the Examiner's decision to reject the claimed subject matter.

For the foregoing reasons and those stated in the Answer, we affirm the rejections presented in this appeal.

#### ORDER

The rejections of claims 1, 4-6, 9-11, 14, and 15 under 35 U.S.C. § 102(b) is affirmed. The rejection of claims 2, 7, and 12 under 35 U.S.C. § 103(a) is affirmed. The rejection of claims 3, 8, and 13 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

#### AFFIRMED

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<sup>5</sup> Appellants have not presented separate arguments for the subject matter of claim 11. That is, Appellants rely on the argument that Fee does not describe ULTR signals. Otherwise Appellants have not explained why Fee does not describe a method for providing an optical, service enabled connection as described by claim 11.

Appeal 2008-6366  
Application 10/073,931

PL Initial:  
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